CLAIMS

What is claimed:

1. An automobile structural element having a profile (14) extending along a longitudinal direction (L), and including an external envelope defining a closed content in section, characterized in that it includes a transverse rigidification core (15B) inside the envelope and connecting two opposite points of the envelope;

in that said profile is made of a metal sheet blank with two longitudinal edges (44, 46), the metal blank consisting of:

. an area (32) forming said rigidification core (15B) of said profile, and

. at least one longitudinal margin (40, 34, 36, 29A; 38, 30, 41, 29B) folded longitudinally;

the two longitudinal edges (44, 46) of said metal sheet blank being connected to the said metal blank in its running part.

2. An automobile structural element as set forth in claim 1 characterized in that said envelope has a cross-section in the shape of a quadrilateral and includes two width sides (20, 22) and two height sides (24, 26) with said rigidification core extending between the width sides (20, 22);

in that the cross-section is formed of:

- six section segments of said envelope including two section segments (30, 32) and two section segments (36, 38, 40, 42) each forming the two width sides (24, 26), and

- two first (29A) and second (29B) connecting parts, and in that it includes a section segment (32) which forms said rigidification core (15B).

3. An automobile structural element as set forth in claim 2, characterized in that said metal blank includes two longitudinal margins (29A, 34, 36, 40; 29B, 30, 38, 42) which are on either side of the said rigidification core (15B) and in that the said margins (29A, 34, 36, 40; 29B, 30, 38, 42) are folded in the first (P1) and second (P2) opposite directions towards the said rigidification core (28).

4. An automobile structural element as set forth in claim 3 characterized in that said cross-section is formed by the following succession of section segments:

- first connecting part (29A)
- first section segment (36) of a first height side (26)
- section segment (34) of a first width side (20)
- first section segment (40) of a second height side (24)
- section segment (32) of rigidification core (15B)
- second section segment (38) of the said first height side (26)
- section segment (30) of a second width side (22)
- second section segment (42) of the said second height side (24)
- second connecting part (29B).

5. An automobile structural element as set forth in claim 4 characterized in that said metal sheet blank is folded by about 90° from one section segment to the next, in the said first direction (P1) between the said first section segment (36) of the said first height side (26) and said section segment (32) of said rigidification core (15B) and in the said second direction (P2) between the section

segment (32) of said rigidification core (15B) and the said second segment section (42) of the said second height side (24).

6. An automobile structural element as set forth in claim 5 characterized in that said cross-section is symmetrical with respect to a central axis (X-X) extending in a longitudinal direction.

7. An automobile structural element as set forth in claim 1 characterized in that the blank has a single longitudinal margin (29A, 30, 34, 36, 38, 42) folded in one direction (P1) around the rigidification core (28).

8. An automobile structural element as set forth in claim 7 characterized in that said cross-section of said profile is formed by the following succession of section segments:

- first connecting part (29A)
- first section segment (36) of a first height side (26)
- section segment (34) of a first width side (20)
- first (40) and second (42) section segments of a second height side (24)
- section segment (30) of a second width side (22)
- second section segment (38) of the said first height side (26)
- section segment (32) of rigidification core (15B)
- second connecting part (29B).

9. An automobile structural element as set forth in claim 8 characterized in that said sheet is folded roughly 90° between one section segment and the next in the said first direction of folding (P1), except for the connection between the said first (40) and second (42) section segments of the said second height side (24), these two section segments being roughly parallel to each other.

10. An automobile structural element as set forth in claim 9 characterized in that said metal sheet is folded roughly 90° between said section segment (32) of said rigidification core (15B) and the said second connecting part (29B) in a second direction of folding (P2) opposite the said first direction of folding (P1).

11. An automobile structural element as set forth in claim 10 characterized in that it includes at least one rigidification (10) strip (60, 62) extends along the length of said profile (14), and forming a hollow opening towards the outside of said profile.

12. An automobile structural element as set forth in claim 2 characterized in that said two section segments (30, 34) of the side of width (20, 22) and said section segment (32) of said rigidification core (15B) are domed.

13. An automobile structural element as set forth in claim 11 characterized in that the thickness (e) of said metal sheet blank is roughly identical throughout the cross-section.

14. Chassis of an automobile with two members (4) and a bumper (12), characterized in that said bumper (12) includes a profile (14) as in any of the previous claims.